

The Boston Medical and Surgical Journal

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The Massachusetts Medical Society.

THE ANNUAL DISCOURSE.

NOTE.—At an adjourned meeting of The Massachusetts Medical Society, held Oct. 3, 1860, it was
Resolved, "That The Massachusetts Medical Society hereby declare that it does not consider itself as having endorsed or concurred the opinions in former published Annual Discourses, nor will it hold itself responsible for any opinions or sentiments advanced in any future similar discourse."
Resolved, "That the Committee on Publications be directed to print a statement to that effect at the commencement of each Annual Discourse which may hereafter be published."

THE REFLECTIONS OF A PHYSICIAN WHO STAYED AT HOME.*

By SAMUEL CROWELL, M.D., DORCHESTER, MASS.

THE physician, obliged to stay at home, shut out from the part the medical profession played in the world's greatest military tragedy, had his mind repeatedly disturbed and diverted from its normal course of thought and purpose. He assumed greater cares and responsibilities. He watched with ever-increasing interest the tide of battle ebb and flow. He read the reports in medical journals and daily press with avidity, and admired, with an admiration tinged with envy, the splendid work done by the members of our profession in uniform. He applauded the devotion of our women, the self-sacrifice of our nurses, and followed, with pride

* Delivered before the Massachusetts Medical Society, at Boston, June 4, 1919.

not unmixed with anxiety, the fortunes of son, daughter, relative, or friend. It is as such an outsider—an onlooker—that I address you.

A marked contrast exists between the present June meetings of this Society and those of one year ago. Relaxation and retrospection have taken the place of the tenseness of war preparation and its attendant anxiety. Today we are readjusting ourselves to the ways of peace; then, the country was facing what seemed a long and bloody war. A seeming apathy existed amongst the members of the medical profession, but, in truth, the members were but conscientiously trying to arrange their affairs in order to make the great sacrifice for their country's sake. A strenuous effort was in progress for the speedy enlistment of the medical profession. No post-mortem is to be held over the methods adopted. The men responded as all true sons of Massachusetts have ever done in the hour of need. As a result of their efforts and those of their colleagues throughout this country and abroad, the wounded soldier, on the battlefields of France today, was—in spite of high explosives and modern engines of destruction,—a fortunate man, compared with his brother of bygone days.

Today, he is cared for by the finest medical skill and devotion the world has ever known.

Then, the condition of the sick and dying was given little consideration. The soldier was fitted

out to fight, but having fought and fallen, there was accorded him few, if any, of the aids and comforts to enable him to endure his sufferings or restore him to health and usefulness.

Sad the fate of many a man, on entering such hospitals as then existed, festering with erysipelas and gangrene.

One sixteenth century battlefield stands out clear before us, dominated by the father of French surgery,—Ambrose Paré. There, surrounded by the wreckage and the carnage of war, the wounded and the dead, he refuses in his operations the boiling oil which his assistants proffer him for the control of the flowing blood, as before his doubting and skeptical colleagues he demonstrates to them that the tying of a single ligature around the severed blood-vessel could control hemorrhage better, surer, with far less pain, more humanely and rationally than by the older barbarous and frightful method.

The picture that comes down to us of this scene, primarily, commemorates a momentous anatomical and surgical advance in the treatment of bleeding arteries.

It also depicts the physician in response to the call to serve his country and humanity, where he is ever to be found: whether fighting death near the first line trench or in some lonely hamlet; in some great metropolitan hospital or in some quiet, experimental laboratory where, more frequently than the world knows, such men as Lazeur and Carrel have displayed greater courage and bravery in deliberately exposing themselves to horrible and fatal disease, so that future generations might live, than many a soldier on the battlefield.

We look in vain through the years preceding and the years following Ambrose Paré for some organized attempt to care for the wounded soldiers. Pestilence and disease have pursued and ravaged every camp the world over.

It is not until comparatively recent times that any attempt was made to better the condition of army life. There shines forth from the disease-ridden hospitals of the Crimean War an angel of mercy and hope in the person of Florence Nightingale, who proclaimed the dawn of a better day. But the day was slow in breaking.

The medical aspect of all past military operations in this country down to the present war is a gloomy picture.

That memorable winter spent by our Continental troops under General Washington at Valley Forge was one of want, disease, and death, with supplies spoiling on the road for lack of transportation, due to the apathy of the Continental Congress.

The enteric diseases that accompanied the Civil War were very severe,—more deadly than the bullets on the battlefield.

In '61, it was not until the sick and wounded began to come back, that accommodations were prepared for their reception. Then only were hospitals speedily established at Washington, Baltimore, and Philadelphia.

Specialists were scarcely known at that time in the Government service, and no organized effort was made to reconstruct or place the disabled soldier in a position to help himself. The less said about the Spanish War the better, especially as it came at a time when the medical world held its head pretty high, and boasted of its achievements.

Modern events began to point to a greater efficiency in the medical care of armies, in cantonment and in the field.

The world's attention was attracted toward the Japanese in their war with Russia, and the methods there applied for the welfare of the troops. The intensive study in recent years of communicable diseases, of their causation, of their prevention, and of the suppression of them when developed, had a special application to army life and was the principle upon which the health of the military forces was maintained in the war just terminated.

Especially noteworthy was the typhoid prophylactic vaccine used with such gratifying results in this country amongst the soldiers sent to guard the Mexican border before this present war began. It removed from this war one of the hitherto great contributing causes of sickness and death in army life.

These facts, accompanied by the willing support of the Government and the lavish generosity of the whole country, stimulated the medical profession to do its best in conserving the man power and economic force of the army and the Nation in order to crush the Hun.

While the final accounting of army deaths from disease will be much higher than what is about to be quoted, yet the report issued in the official United States Bulletin during the month of September, 1918, just previous to the out-

break of the influenza, is illuminating: That with over 1,700,000 men over-seas, the army death rate from disease is only 2.18 per 1,000 annually; the death rate for the same age of men in civil life is 6.7 per 1,000. Truly an astonishing statement.

This splendid record of the health of our military forces, during the first twelve months of the war, maintained by the vigilance and skill of our doctors in the army and navy, needs to be more forcibly impressed upon the public mind. Too many still believe the wild tales circulated during the first year of the war as to medical neglect and needless sickness in the cantonments.

The study of communicable diseases is supplanting the earlier work of preventive medicine, which, in reality, is the foundation rock upon which preventive medicine rests.

Up to September, 1918, when we were visited by the influenza, so completely were communicable diseases under control that the eastern menace of the Bubonic plague seemed the only possible disease that might obtain a foothold in the country and seriously affect the health of the people.

One would have felt safe in saying that never again would the civilized world, guarded by its present and fast accumulating weapons of defence against unknown diseases, be ravaged by extensive epidemics similar to the black death which carried off two-thirds of local groups of the population of Europe in the fourteenth century, or the great plague of London in the seventeenth century, when 68,000 people died in a single year. This influenza, this modern scourge, made us doubt as to our security for the future. The influenza, however, has passed by, leaving us with our experiences and our deductions, yet full of uncertainty as to future methods for its prevention and treatment, and while some advancement has been made as to treatment, little has been accomplished as to prevention.

It has taken a great many years from Jenner's discovery of the control of smallpox by vaccination, the suppression of yellow fever in Cuba, and the immunization of individuals to typhoid fever, to bring about our present methods for the prevention and control of communicable diseases.

The medical world felt that it had arrived at a point where it could control the health of communities, depending upon the extent to

which the free actions of people should be controlled by board of health regulations.

However, until a prophylaxis is found for the influenza, such regulations as now exist must be more rigidly enforced. Neglect brings its own penalties.

At the time of the Spanish War in 1898, we were not using the prophylactic vaccine for typhoid fever, but our understanding of camp sanitation was excellent; the value and importance of uncontaminated drinking water was thoroughly appreciated; the proficiency and experience of army surgeons was sufficient to have thoroughly preserved the health of our troops at that time,—yet the cry that swept over the land, of "Remember the Maine," caused our young men to rush to arms unprepared, undisciplined, and untrained. The results, in consequence, were disastrous to health and life. It proved a good, though sad, expensive, and humiliating lesson,—reflecting no credit either on the military or the medical profession.

One class of infectious disease pervades the land, whose etiology, clinical symptoms, and means of suppression, are known to the whole profession. It can be controlled, and its source of infection traced and suppressed in many cases as readily as typhoid fever, and yet it continues to exist. This is the age-old curse of society, commonly spoken of under the general term of "venereal disease." In a discourse of this character, one can hardly go into details as to its extent or its well-known ravages in military and civil life; neither can one more than casually refer to the tremendous amount of work undertaken in order to preserve the health of our troops in this direction by the rigid military discipline enforced upon the men, the work of the army and the navy, the Public Health Service, the Red Cross, the Y.M.C.A., by states and communities, supplemented by the suppression of alcohol. Our own State Department of Health started an excellent work by requesting physicians to report their cases of venereal disease and follow them up, but it is too early, as yet, to judge of its value. Added to these agencies were the earnest efforts of the whole country to protect and preserve the health and welfare of our boys in cantonment, in battle, and in hospital, with the result that there has been awakened and stimulated a hitherto unknown amount of attention toward the suppression of venereal disease.

Previous to the war, a voice was heard here and there sounding a note of warning, repeating the story, emphasizing again and again the unnecessary burden society was carrying as a result of this disease. All would agree that what was said was true, and there the subject seemed to end. The important thing to be remembered at this time is that the interest taken in the subject while the men were in uniform must not flag or be neglected with the soldier returned to civilian life. The menace still remains, for with the army restraints removed, old conditions will return.

It is not generally known to the public that after the men were put in uniform gonorrhea and syphilis were, as other diseases, less prevalent than in civil life.

Extremists have advocated rigid and arbitrary methods in dealing with this subject. It enters so many social phases of life that the medical profession and State authorities are in a quandary how to proceed. It is a burning question, to be handled wisely and promptly. Thoughtful and serious-minded men are considering it from many angles. It is being presented to the public in plainer and more outspoken speech, by educational methods, by literature, by the moving picture, and by attempting to raise in the minds of every one a higher moral responsibility toward others.

To suppress this tolerated infection circulating unrestrained through the land, something stronger is needed than the present feeble laws and State Board of Health regulations; something more is required than the controlling of criminals or the actions here and there of some one individual known to be infecting others. Something more is needed than educational propaganda and moral suasion, though, exceedingly helpful, they will aid to a certain extent; but one must be extremely optimistic to expect these agencies alone to accomplish it. In the end, only when syphilis and gonorrhea are classed and treated by our boards of health in the same way as other communicable diseases will they be fully controlled.

While the war raged and the reports of German atrocities appeared in the daily papers, hardly a physician but reviewed in his mind the relations, many of them extremely pleasant, that existed between himself and those of German descent in this country as well as in Germany,

trying to explain how, even under war conditions, these stories could be true.

As a medical student of five and thirty years ago in Germany and Vienna, there comes to mind many unpleasant instances showing certain characteristics of the medical profession there which help to answer these questions.

Then, fresh from the hospitals of Boston, where the care of the patients came first, and medical instruction so arranged that the patients were benefited greatly by medical teaching, one found that the patients in the Vienna hospitals were simply so much clinical material, and were kept in the hospitals in many instances, so it seemed, so long as they were of use for teaching purposes rather than for their own benefit.

The general impression a student received at that time was that the height and brilliancy of the practice of medicine were to have the findings at the autopsy table bear out the clinical diagnosis made during life.

A shameless disregard of decency or for the feelings of the patients was daily witnessed in the skin and gynaecological clinics, where the women patients were stripped entirely nude and passed around amongst a crowd of gaping students for examination.

One instance comes to mind of a young woman appearing daily at the throat and nose clinic with a beginning syphilitic perforation of her nasal septum. She was there for the students to watch the progress of the disease, see the perforation take place, with the destruction of the septum and the disfigurement of her facial appearance. No treatment was given, for the retarding or the cure of the disease would have spoiled the case for clinical instruction.

It happened one day that the class was examining in a hospital ward a patient suffering extreme distress, while the professor stood by rather jokingly and sarcastically commenting on the stupidity of the class in failing to make either a correct diagnosis or prognosis. The true significance of the situation dawned upon me about the time that the patient fell back in the bed dead.

The remark that I made to my neighbor I remember well: "With this great hospital full of patients, why could not the damned brute let the poor creature die in peace."

Many a student was impressed by the results of German medical scientific research; some at

least were disenchanted by their methods, and felt grateful that they did not exist in American institutions.

But to come back to the present.

The physician who stayed at home coming in closest touch with our great military organization were those serving on the Selective Service Local and District Boards. Through the meshes of their sieves were sifted the men who seemed fit for military duty. Quietly and faithfully working early and late, sacrificing time and strength, they did a patriotic work scarcely recognized, and obscured by more stirring events. Out to secure fighting men, determined none should escape who might serve the purpose, men were occasionally forwarded to the recruiting camps to be returned as unfit. "A man fit to do a day's work ought to be fit to fight," reasoned some examiners, "if he did have a small hernia or a slight apex murmur with no heart enlargement," while other physicians examined with excessive care, feeling mortified when an overlooked defect was found by the army surgeons and the man returned. "Better," reasoned some, "to have now and then a man sent home than one escape."

Many physical defects causing rejection of the men in the first draft were later on in the war passed over and the men accepted. The army surgeon's high physical standard under peace conditions had to be modified as time went on, and the draft doctor learned to appreciate the military point of view.

For example: One draft board in the first draft entrained for camp 270 men, of whom 20 were returned. In the second draft, 163 were entrained, with but 3 rejections at camp.

The local board physicians, on commencing their work, felt that they knew fairly well the standard of health and physical fitness of the men in their localities, but were greatly surprised and disappointed at the results of the examinations. So also were the men themselves. In that hurried preliminary sifting of 2,501,706 men examined throughout the U. S. in the first draft, 730,756, or 29.11 per cent., were rejected.

These rejected men in many instances may well bless the doctors who examined them, as well as the day they stripped for examination. Countless unknown and remediable defects were pointed out, and gratuitous and valuable advice was freely given as the men passed by.

A prominent manufacturer, chairman of a

Selective Service Board in one of our large mill towns, is quoted as saying that never again would he oppose an increase in the town's expenses by reason of the medical and nursing supervision of the children in the public school, especially the care of their teeth. The filthy mouths carried about by so large a part of the community for lack of early care and training, was unbelievable until pointed out by the medical examiner on his board.

The revelation of these remediable defects of the drafted men should furnish added proof of the value, from an economic and business standpoint, of medical supervision, at public expense, of the individual from prenatal life to his grave.

The wonderful transformation which took place in these newly drafted men astonished no one more than the examiners themselves.

Amongst the men were frequently found pale, flat-chested, stoop-shouldered, frail fellows, in whom no physical defects were found; it seemed a crime to send them to war when others seemingly stronger were rejected; yet regular living, physical training, and army life soon created a manly carriage, the results of health and spirits, which filled their hitherto apprehensive relatives and friends with pride and admiration.

These facts will prove among the strongest arguments for universal military training in the future.

In other ways, too, these physicians came to recognize the difference between the military and the civilian point of view with regard to the soldier. This is illustrated by an instance occurring at a dinner given during the early winter of 1918. A well known general severely criticized a previous speaker for referring to the soldiers of our army as our "boys." This general said the soldiers were *men*,—not boys; that they should be addressed always as men; it was a stern, hard job they had to perform, accompanied by privations, hardships, and danger. They should not be coddled by such terms as "boys." That may be the military point of view of it, necessary to the training of a soldier. No criticism is intended here!

The civilian point of view, nevertheless, will always differ. We know our boys are men; that the soldiers of the United States have always fought like men and measured up to the high standard of American manhood. But just so long as there are fathers and mothers, sweethearts and wives at home, the men of our armies

will always be looked upon as their "boys," whether they are 18 or 45. Furthermore, they always have been so called. There was Ethan Allen and his "Green Mountain Boys" of the Revolution; the "boys in blue" and the "boys in gray" of the Civil War; the songs that come down to us from that conflict and those stirring times tell the same story to the tune of "Tramp, tramp, tramp, the boys are marching," and "When Johnnie comes marching home again, hurrah!" and today we hear the rich, broad accents of Sir Harry Lauder's voice singing:

"All the lassies will be loving all the laddies,

The laddies who fought and won."

They are our boys, for we love them—all.

From the very first steps taken to organize our army for the war, it was apparent that the best medical and surgical care the country could supply was to be furnished for the men. The impulse came from our profession to offer its services and give of its best, whatever the sacrifice. The demand came from the government, from the parents of the men, from the troops themselves. The generous public, the individuals of means, lavishly supplied the funds for medical units to go over seas, for the hospitals, and the nurses.

Military medical schools were established for the special training of physicians and surgeons to meet the new conditions and diseases incident to the war. Some one has said that the "quacks and the fakers were swept aside" and little or no opposition was offered by them to vaccination, or other methods for the best and most scientific care and treatment to keep our soldiers and sailors fit.

Did this spirit of patriotism for once overpower the greed for gain in the heart of the charlatan, or was he overcome by the fear of censure?

Why, in times of peace, should not the American people demand of the Government the same high standard of medical proficiency? What is good in times of war should be good in times of peace.

It is a strange inconsistency of the human mind to see legislative committees, in the face of irrefutable and indisputable medical facts, swayed by medical commercialism and misguided sentimentalism, keeping down deliberately and with malice aforethought the standard of medical practice in this Commonwealth.

It is surprising that, while societies such as the Anti-Vaccinationist, the Anti-Vivisectionist, and like cults, flourish in different parts of the country, there is not a strong, energetic society of laymen organized for the purpose of encouraging and demanding legislation along sound scientific lines, insisting that each medical problem coming up year by year should be referred to and reported upon by experts qualified to judge as to their usefulness or worthlessness, and their judgment accepted.

The burden has been borne too long by the medical profession to finance and to fight alone and unaided. Too long have small bands of earnest physicians appeared at the State House on vital matters of public health, to be opposed by a horde of inexperienced and prejudiced objectors, there to be reminded by some committee chairman that if the case was so important, it was strange it was so poorly represented, or when, on the other hand, reputable physicians have appeared in goodly numbers, to have them open to the imputation of trade unionism; in spite of the fact that every measure for preventing disease, and raising the standard of public health lessens the income of every doctor in the Commonwealth. The true and dignified position for scientific medicine is that of consultant and adviser to the Commonwealth. The demand for a high standard of medical efficiency and public health regulations should come from the people, and upon the legislators should rest the responsibility of meeting these requirements.

At our annual meeting last June, we were addressed by a distinguished English guest from overseas. Care and anxiety were written in the lineaments of his face. Dread as to what the future held in store for the Allies he made no attempt to conceal, as he urged the speedy and united help of the medical profession and the American people. His remark that the Americans had boasted they could whip the world, and that the time had now arrived for them to make good, was received with an appreciative smile by his audience. None failed to grasp the deep significance of that remark.

It seemed as if by some process of mental telepathy his challenge to make good was conveyed to every fighting man throughout the land.

The American soldiers crossed the seas and landed on the shores of France at a time when

our Allies had their backs against the wall. Fighting and falling back, fighting and falling back to a point where disaster seemed imminent. Then the Yankees struck!

Our answer today to Sir William Arbuthnot Lane is to be found on the battlefields of France, and in the depth bombs of our destroyers. But let us ever bear in mind that back of our Army and Navy was the conscientious work of the members of the medical profession abroad and in the cantonments at home; not forgetting for a moment their personal sacrifices in order to perform this patriotic service. They have earned and deserve our gratitude and unstinted praise, and they can safely return into the ranks of civil life with the proud consciousness that they played an important part in shaping the destinies of the world and of our great republic.

Original Articles.

INFLUENZA AND STREPTOCOCCUS HEMOLYTICUS.*

By DAVID B. MEDALLA, M.D., 1ST LIEUT., M.C., CAMP HOSPITAL No. 97, AMERICAN EXPEDITIONARY FORCES.

I WAS called upon by the commanding officer of this hospital to write a paper on a bacteriological subject. Since the notice was very short, I chose to write on a very brief topic which happened to be part of my work while being on duty at Fort Oglethorpe, Georgia, U.S.A. The work consisted of an investigation of a couple of problems from the bacteriological standpoint.

After I completed my course at the Rockefeller Institute, New York, last April, I was sent on duty at Fort Oglethorpe, Ga., to take charge of a Pullman Red Cross Laboratory Car called "Lister." The purpose of such laboratory cars was to take care of any epidemic which might break out in any part of the country. They were then simply attached to a train and sent there for active work. They were completely fitted out with all the necessities of a fully equipped large sized laboratory. On them were an office, bath rooms, cooks, dining-rooms, sleeping quarters, water reservoirs, telephone, and her own electric generator.

* Read before the Medical Officers of Camp Hospital 97, St. Dizier, France, March 19, 1919.

While waiting for an emergency call, I was doing some work in the laboratory of the General Hospital No. 14. Among other problems, there came up the question of what could be the cause of such a number of undiagnosed pyrexias in the hospital, which ran a course of a few days and then dropped down to normal and stayed normal. With the temperature there was also a slight irritation of the throat, nothing to amount to much. The chief of the laboratory turned the problem over to me to work out the cause of those symptoms. I proceeded to make cultures on blood and glucose agar plates as well as tubes from the nose, throat, and sputum. We also made direct smears from the same sources and stained them with various dyes. Carbol fuchsin brought out the bacillus "influenza" in great quantities in case after case. We made examinations on a number of the non-diagnosed pyrexia cases. The only satisfactory method was the direct smear from the sputum stained by carbol fuchsin, while the cultures were not very successful except for a few out of the whole number, which grew upon blood glucose agar. The bacillus "influenza" is a very delicate small coma-like bacillus, usually located between the cilia of the trachea, and if successfully grown upon the culture media does not seem to live very long on it, even though it is transplanted very often. The method of recovering the bacillus from the sputa was as follows: The specimen was collected in a sterile container, a big lump of the sputum was then put into a sterile petri-dish and washed with sterile salt solution; smears were then made and stained by diluted carbol fuchsin steamed for three minutes, washed off with water, and dried between two pieces of filter paper. This investigation helped to find out the cause of the pyrexias and throat irritation, and these cases were diagnosed "influenza."

The next problem came up about a majority of cases which were operated on for appendicitis and acquired a primary infection of streptococcus. The question was, where did it come from? We started up the search for the cause. Cultures were made from every surgeon, nurse, and attendant. The source for cultures were the throat, nose, finger nails, and hand gloves after they had been washed and sterilized. We also cultured the water, scrubbing brushes and soap. Plates with culture media were left

open in various parts of the operating room and kept open for fifteen minutes and a half hour to see if there was anything in the dust of the room. Cultures were then made from the walls of the operating room by means of swabs on blood agar plates. The same was done with the skin scrapings from a number of patients after they were prepared as if they were going to be operated upon. Some patients were sterilized by tincture of iodine after their abdomens were cleaned and scrubbed, while another set were sterilized by benzol and iodine. After the cultures were put away in the incubator for 24 hours they were all examined macroscopically and microscopically; they all had one thing or another which was of no importance. There was one set of cultures, however, which proved to be valuable, and that was the set of cultures made from the wall of one of the operating rooms. It contained a beautiful streptococcus hemolyticus. This seemed to throw a light on the investigation and we soon found out that the habit in that hospital was to have a number of adhesive plasters cut and stuck to the wall of the operating room. After the patient was operated on, sterile pads were put on the region where operated and the strips of adhesive plaster from the wall were quickly put on the patient to hold the dressing. This being the case we concluded that the infection was introduced by the adhesive plaster from the wall. The commanding officer of the hospital then ordered all the walls to be washed and repainted, and above all, to stop the habit of sticking the adhesive strips to the walls. In this way, the almost post operative epidemic was stopped.

A SURVEY OF 100 CASES OF DRUG ADDICTION ENTERING CAMP UPTON, N. Y., VIA DRAFT, 1918.

BY MAJOR GEORGE E. MCPHERSON, M.C., (MEDFELD, MASS.),

Camp Psychiatrist,
AND

LIEUT. JOSEPH COHEN, PH.D., (NEW YORK CITY),
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EARLY in June of this year, it became noticeable that a relatively large number of drug addicts were being received at camp. These men passed before selected examining teams, and, as suspected cases, were sent before a spe-

cial board for disposition. Statistics prepared at the time of writing this paper show that of all the rejections in five months, under the Neuro-Psychiatric Service at this camp, 17% were drug addicts, which indicates the importance of this disease. During the five months from May to September, inclusive, 53,000 recruits were examined. In this period of time 178 drug addicts were rejected, approximating 0.35% of the total number of drafted men.

Previous experience in accepting these recruits for service; attempting to treat them with hope of improvement at the base hospital, had so uniformly and ingloriously failed, that the policy of rejecting all positive cases was instituted in June. Most of such men gave a history of numerous trials at various "cures" whose failure was apparently complete.

Where the statement of the recruit was substantiated by positive physical symptoms of withdrawal, or in those cases exhibiting recent corroborative marks of hypodermic needles, such men were at once rejected from the draft and returned to civil life as unfit for military service; otherwise suspects were sent to duty or to the base hospital for further observation. It was found to be perfectly practicable to observe these men in their companies and to have distress relieved by the battalion surgeons, until the necessary discharge papers could be procured and these men dismissed from camp.

A considerable number of such addicts begged for a chance to stay in the service, apparently thinking the army life offered a cure where other attempts had failed. Several were allowed to try it, even against one's better judgment, and without other assistance than regular life and reasonable physical exercise. Most of such experiments failed and emphasized the poor material from which such addicts are fashioned. Although not grading low psychologically, these men are below par in moral sense, judgment or perseverance in good habits.

About July 1 it was decided, with the coöperation of the Psychological Division, to attempt the examination of a set number of drug addicts; to grade them psychometrically; to obtain their histories; all with the hope that the resulting information might prove instructive. Certain it is that in the large cities the Federal law does not successfully suppress the traffic in narcotics. The majority of those men who had drugs in their possession exhibited vials

with drug-store labels and had "permits" from physicians to facilitate the obtaining of drugs.

A large percentage of these men coming into camp had been caught without sufficient supply of drugs, so that they were, in the majority of instances, suffering more or less acutely from their withdrawal. Eighteen men were in good physical condition and showed no mental distress. The remainder (82%) exhibited symptoms varying from feelings of weakness and drowsiness on one hand to conditions of exhaustion and collapse on the other. Marked tremors, especially facial, sweats, abdominal cramps, often severe, and nervousness emphasized the unhappy condition of those who had run short in their supply.

In an attempt graphically to present the histories of these addicts, fifty cases have been charted. This lot of fifty is entirely representative of the entire survey of one hundred or even more, and is evenly divided between whites and negroes. While it is not the purpose of this paper to prove any set of conclusions, the following résumé deserves some attention.

Mental-Age Ratings (Basic Year, Upper Limit). Mental-age ratings secured by the Stanford-Binet, Point-Scale, Performance-Scale and Beta Tests indicate that the intellectual level of drug addicts appearing before the Recruit Medical Examining Board does not vary strikingly from that of normal draftees. The average for the group and the median (ignoring fractional parts of a year) both lie in year 12.

It is estimated by the Division of Psychology that the average soldier rating is year 14. While at first it might appear that drug addiction correlates closely with mental inferiority, a comparative examination of drug-addict scores with ratings of men of their own social and educational group would reveal that there is no striking intellectual inferiority. The occupational and industrial histories of these men show them to be, in the majority of cases, unskilled or poorly-trained workers whose schooling, in more than half the cases, did not extend beyond the fifth grade. The mental ratings of healthy men within this industrial-educational group is probably not much (if at all) higher than that attained by the average drug addict.

The basic year and upper limit as designated in the table seem to indicate that there is no unusual scatter along the scale. The appear-

ance of wide scatter, had it occurred, would usually have been taken to be symptomatic of either a psychotic condition, an attempt at malingering, or of a failure on the part of the subject to cooperate in the work of the examination. On the other hand a gradual dropping off on the scale is assumed to be indicative of perfectly normal mental registration. The "Basic Year" and "Upper Limit" columns, if significant at all, show, therefore, that striking mental deterioration has not yet set in in the variety of cases constituting this group. (Note: Where basic year or upper limit are not registered the scale used was either Performance or Beta.)

Years in United States. Ten of the hundred cases here reported are foreign-born; the remainder are native-born. The percentage (90%) remains about constant when larger numbers of drug addicts (not here reported upon) are considered. The cases here presented were contributed for the most part by two army drafts, one "white" and one "negro," the exact numerical strength of which it would be difficult to register accurately. It is estimated, however, that the drafts were of equal size. Upon examining the original data sheets (after completing the tabulation) we find the distribution of cases according to race to be: White, 50; African, 50. To compare the incidence of drug-addiction in the two racial groups would necessitate as preliminary a line of geographical demarcation, for it has been found that cases come in groups from certain urban localities and to be comparatively rare in other cities. The drug addict from a rural community seems to be the very rare exception.

Schooling. More than half of the subjects here reported upon advanced no further than the fifth grade in the elementary schools; 26% are elementary school graduates; 8% of the total number reached the high schools. Two in one hundred graduated from a secondary or professional school

DRUG.

Addicted to use of heroin exclusively	42
Addicted to use of morphine exclusively	20
Addicted to use of opium exclusively	8
Addicted to use of cocaine exclusively	2
Addicted to use of heroin and some other drug	28
Total	100

MANNER OF TAKING DRUG.

By hypodermic injection	64
By sniffing	16
By hypodermic injection and mouth	12
By smoking	8
Total	100

FIFTY DRUG ADDICT CASES. COMPILATION OF MENTAL AGE

CASE NO.	MENTAL AGE	BASIC YEAR	UPPER LIMIT	BIRTHPLACE	YRS. IN U. S.	SCHOOLING	GRADE REACHED	DATE	AGE WHEN WAS CONTRACTED	LOCALITY IN WHICH CONTRACT WAS MADE	DURATION OF HABIT (YRS.)	DAILY CONSUMPTION	FREQUENCY OF DOSE	ASSOCIATES	NUMBER OF CONTRACTS
1	9.0	9	—	N. J.	—	2	H.	20	New York City	3	—	—	—	Associates	—
2	13.6	9	14	Va.	—	2	M.	18	S. Orange, N. J.	10	5 gr.	6 doses daily	—	—	—
3	9.0	9	—	N. J.	—	4	H., C. & M.	25	Newark, N. J.	3	12 gr.	—	—	—	—
4	9.0	9	—	S. C.	—	3	H. & M.	26	Mt. Vernon, N. Y.	5	20 gr.	5 doses daily	—	—	—
5	11.0	9	12	N. C.	—	5	H., C. & M.	19	New York City	9	20 gr.	4	—	Taken by advice of "friend when sick"	—
6	8.7	8	9	Ohio	—	8	H., C. & M.	21	Syracuse, N. Y.	3	—	—	—	Associates	—
7	15.2	10	18	N. Y.	—	8	M.	19	Troy, N. Y.	11	15 gr.	5 doses daily	—	By advice when sick	—
8	10.6	8	14	N. Y.	—	6	H.	18	Brooklyn, N. Y.	6	15 gr.	7	—	Associates	—
9	9.0	9	—	Va.	—	7	H. & C.	16	Newark, N. J.	7	15 gr.	5	—	—	—
10	12.3	12	16	N. Y.	—	8	H.	21	Brooklyn, N. Y.	5	11 gr.	3	—	—	—
11	14.4	10	16	N. R.	—	8	H.	16	New York City	10	22 gr.	4	—	Curiosity	—
12	10.8	10	12	N. R.	—	3	M.	22	Brooklyn, N. Y.	6	17 gr.	25	—	Associates	—
13	11.3	9	16	Ore.	—	10	O.	18	China	12	\$4.00	Smokes	—	—	—
14	13.5	12	14	N. Y.	—	4	H.	17	Brooklyn, N. Y.	9	35 gr.	6 doses daily	—	—	—
15	15.8	14	16	N. Y.	—	7	H.	18	New York City	5	20 gr.	5	—	—	—
16	9.9	8	14	Italy	20	0	H.	29	New York City	9	15 gr.	3	—	—	—
17	14.00	14	14	N. Y.	—	6	H. & C.	16	Brooklyn, N. Y.	7	112 gr.	4	—	Worry over charge of manslaughter	—
18	14.0	14	14	N. Y.	—	7	H.	19	New York City	7	20 gr.	10	—	Associates	—
19	12.8	10	16	N. Y.	—	7	H.	19	Brooklyn, N. Y.	10	40 gr.	10	—	—	—
20	13.7	10	16	Russ.	12	5	M.	19	New York City	7	30 gr.	6	—	—	—
21	15.8	14	16	N. Y.	—	H. S.	H.	20	Staten Island, N. Y.	4	10 gr.	4	—	—	—
22	13.0	9	14	N. Y.	—	6	H.	24	Brooklyn, N. Y.	6	18 gr.	15	—	To relieve pain of cancer. Medical adv.	—
23	13.4	12	—	N. Y.	—	0	H. & M.	17	Brooklyn, N. Y.	3	50 gr.	8	—	Associates	—
24	11.0	9	12	Penn.	—	1	H. & C.	22	Wilmington, Del.	6	20 gr.	3	—	—	—
25	11.0	—	—	Del.	—	0	H. & C.	19	Wilmington, Del.	9	50 gr.	8	—	—	—
26	9.0	—	—	N. C.	—	0	H. & C.	16	Wilmington, Del.	10	45 gr.	18	—	—	—
27	12.5	—	—	N. C.	—	2	H.	22	Wilmington, Del.	8	60 gr.	4	—	—	—
28	11.0	—	—	Del.	—	5	C. & H.	20	Wilmington, Del.	9	20 gr.	4	—	—	—
29	9.0	—	—	N. Y.	—	7	M.	18	Brooklyn, N. Y.	10	15 gr.	3	—	Misery and Blows: med.	—
30	9.0	—	—	Del.	—	0	H.	25	Wilmington, Del.	1	8 gr.	4	—	Associates	—
31	9.0	—	—	Del.	—	0	C.	19	Wilmington, Del.	3	10 gr.	8	—	—	—
32	12.5	—	—	Md.	—	5	H. & C.	22	Wilmington, Del.	6	12 gr.	7	—	—	—
33	11.6	9	14	Va.	—	7	M. & H.	17	Brooklyn, N. Y.	6	35 gr.	2	—	Associates and medication	—
34	9.6	9	10	Va.	—	2	H.	20	New York City	7	20 gr.	5	—	Associates	—
35	11.5	—	—	Mass.	—	8	M.	19	Boston, Mass.	8	10 gr.	4	—	—	—
36	8.7	8	9	N. Y.	—	6	H.	17	Brooklyn, N. Y.	6	20 gr.	20	—	—	—
37	12.4	9	14	N. Y.	—	5	M.	22	New York City	3	8 gr.	4	—	—	—
38	8.5	8	9	Rumania	—	1	H.	24	New York City	5	8 gr.	5	—	—	—
39	11.1	9	14	N. Y.	—	2	H.	17	New York City	7	15 gr.	4	—	—	—
40	14.8	12	16	Denmark	—	6	M.	24	New York City	5	20 gr.	4	—	Used on doctor's advice	—
41	9.5	9	10	Conn.	—	3	H.	18	New Haven, Conn.	13	10 gr.	—	—	Associates	—
42	15.8	14	18	N. Y.	—	8	H.	20	New York City	2½	12 gr.	3	—	—	—
43	14.0	12	14	N. Y.	—	8	H. & M.	19	New York City	6	12 gr.	6	—	—	—
44	13.1	10	14	Penn.	—	8	O.	20	New York City	12	24 gr.	12	—	—	—
45	16.7	14	18	Canada	10	10	M.	20	New York City	9	9 gr.	3	—	—	—
46	13.3	12	14	Mass.	—	11	M.	19	Boston, Mass.	6	14 gr.	4	—	—	—
47	11.3	9	14	Ala.	—	4	O.	17	Brooklyn, N. Y.	7	—	2 smokes d'y	—	—	—
48	15.0	14	16	N. Y.	—	8	H.	18	Brooklyn, N. Y.	4	12 gr.	4 doses daily	—	—	—
49	13.6	10	16	N. Y.	—	1	H.	25	New York City	3½	20 gr.	5	—	—	—
50	8.3	6	12	N. Y.	—	0	O.	18	New York City	12	—	Several smokes	—	—	—

* M.
+ H.
I C.

RATINGS AND PERSONAL DATA. CAMP UPTON, NEW YORK.

CURE AND RE- LATIVES	MANNER OF TAKING DRUG	DISEASE HIST.	Alcohol (Ab- sorption to Use of)	COGNITION AT TIME OF EX- AMINATION	CRIMINAL HIS- TORY
Tried cures None	Hypo.	S. and B. fits Pos. ven.	None	Appeared normal Normal	None given 1 yr. possessing drugs; 1 yr. re- formatory, use of
"	"	Neg.	Occasionally whis- key	Drowsy, restless; said he was suffering	None given
Taking "cure" but still uses	"	F. dead of par- alysis Pos. ven.	Very heavy before addiction, neg. now	Normal	3 arrests and convictions, causes un- known
None	"	" "	Prior to addiction, not now	Slight emul	Served sentences for assault, ped- dling, burglary
Attempted 3	"	Neg.	None	Marked tremors, parti- ally under control	None given
King Co. Hosp. abt. 3 mos.	Sniffing	Pos. ven.	"	Law spirited, can hard- ly stand; weak	" "
Medicines	Hypo.	Neg.	"	No nervousness; vacant stare	" "
Belladonna in jail	"	"	"	Feels weak; mind is clear and active	" "
6 cures	Hypo. and sniff.	"	Excess before ad- diction	Abst. symptoms	Arrests for drug addiction
Abst. 3 mos. in jail	Hypo.	"	Excess before drug addiction	" "	Convicted for possession of drugs and larceny
5 cures	Smoking	"	None	" "	1 sentence of 3 mos. viol. of liquor laws
2 cures	"	Tub. in family	Moderate	" " (mild)	Frequent arrests for use of opium
1 voluntary	"	Neg.	"	" " (mild)	None given
1 yr. in prison	Sniffing	Pos. ven.	Sometimes to ex- cess "after" addic.	Abst. symptoms (re- covering)	1 yr. in prison
1 in hosp	"	Neg.	Excess before drug addiction	Abst. symptoms	1 arrest on charge of manslaughter
2 arrest.	Hypo.	"	Excess before drug addiction	" " (severe)	2 jail sentences, causes not given
2 in prison	"	Pos. ven.	Moderate	Abst. symptoms (re- covering) tremors at mouth	3 mos. in workhouse for use of drugs
6 cures	"	"	"	Sweats, cramps, weak- ness and nervous	2 pen. grand larceny; 8 workhouse, minor offense
3 hyacinine	"	M. insane; B. tub.	None	Normal	6 times for assault
1 belladonna	"	Neg.	Moderate	"	Arrested but not convicted for use of drugs and assault; 4 jail, drugs
3 in prison	"	"	"	"	1 pen. larceny
King Co. Hosp. 46 days	Sniffing	"	"	Abst. symptoms	None given
Tried self cure	Hypo. and sniff.	Pos. ven.	"	"	"
2 hosp. cures	Hypo.	F. tub.	"	Headache, blue, and sick stomach	"
5 in jail	"	"	"	Weak and cramps in stomach	"
None	Hypo. and sniff.	Neg.	"	Sick and weak all over	"
"	Sniffing	Pos. ven.	Lots of gin	Weak and cramps in stomach	"
"	Hypo.	"	Moderate	Drowsy, cramps, weak	"
4 days, self cure	Hypo. and sniff.	"	"	General weakness	"
None	Hypo.	"	"	Weakness	"
"	"	"	"	Nervous, giddy & weak	"
"	"	"	Neg.	Abst. symptoms	"
Self cure	"	"	Neg.	"	Negative
Workhouse	"	"	"	"	1 arrest for selling whiskey with- out license
None	"	"	"	"	4 mos. for larceny
Mass. State Hosp.	"	Pos. ven.	Excess before drug addiction	Good	Negative
War Hosp.	Hypo. and sniff.	Neg.	Moderate	Abst. symptoms	"
3 mos.	"	"	"	Good	"
Workhouse	Hypo.	"	None	"	Workhouse hosp., use of drugs
None	"	"	"	Abst. symptoms	N. Y. C. pen., use of drugs.
Metrop. & Bellv. Hosp.	Sniffing	Pos. ven.	"	"	None given
4 cures	Hypo.	Neg.	"	Good	Negative
None	Sniffing	"	"	"	"
Blackwell's Isl. Metropol. Hosp.	Hypo.	"	"	Abst. symptoms	1 arrest and fine, disorderly conduct
2 self cures	Smoking	Pos. ven.	Moderate	Weak	Blackwell's Island for use of drugs and cure
Metropol. Hosp.	Hypo.	"	Excessive use to break drug habit	Abst. symptoms	2 wks. in jail, disorderly conduct
Bondville Hosp.	Smoking	"	None	"	Negative
Self cure	"	Anthrax M. tub. F. droopy	Moderate	Normal	10 days for disorderly conduct
Self cure	Hypo.	Neg.	None	Abst. symptoms	Arrested for possession, and use of drugs
Self cure	Sniffing	"	Excessive use be- fore drug addiction	Abst. symptoms (re- covering)	Arrest and conviction for drug ad- diction
Self cure	Smoking	"	Heavy present use	Sleepy	Arrest and conviction for use of drugs

One man smoked \$4.00 worth of opium per day. By the hypodermic method one took two, five took three, eleven took four, and four took six doses per day; another took 25 shots in one day. By sniffing, the highest doses per day were three in number. By the combination of sniffing and injection of heroin, respectively, three adults took eight doses of each, and one took twenty doses of each in a day.

Daily Dose. The relationship between age of habit and daily dose immediately suggests itself as a worth-while problem. On the face of the available data, however, no positive conclusion can be drawn as to the measure of interrelation for the reason that in the vast majority of cases the daily dose is regulated artificially by the limitations of the individual subject's purse. The personal histories of these men reveal the fact that the drug addict usually regulates his budget affairs with a minimum expenditure allowance for the everyday requirements of living, and a correspondingly definite sum for indulgence in his drug. Though the average drug addict would not admit that his habit is an indulgence, the fact remains that the daily dose is usually determined by the funds available after food and shelter have been secured. The low dose per day was, for morphine, 5 grs.; heroin, 4 grs.; cocaine, 10 grs. The high dose per day was for morphine, 30 grs.; heroin, 60 grs.; cocaine, 10 grs.

Age at Which Habit was Contracted. Of drug addicts within the old draft age limits (21-31), 72% contracted the habit before they were 21 years old. The average falls at 19.6 years; many began at 16, and the oldest in group at 26.

Manner of Contracting. Ten per cent. of the 100 men examined attributed their contraction to the drug habit to medication by professional advice. Eighty per cent. admitted they were introduced to drugs by their friends, their friends very largely being immoral women. The social stimulus seemed in the large majority of cases to be the active agent in propagating addiction. One such addict told of being kept by a widow for immoral purposes and receiving \$15 per week, which he invested largely in drug.

Age of Habit. Of 80 men in this group rejected from the army on account of addiction to drugs,

- 20 had contracted the habit 6 years prior to this examination.
- 12 had contracted the habit 7 years prior to this examination.
- 12 had contracted the habit 9 years prior to this examination.

- 10 had contracted the habit 10 years prior to this examination.
- 20 had contracted the habit 5 years prior to this examination.
- 6 had contracted the habit 12 years prior to this examination.

The other 20 cases vary widely in this respect (from 1 year to 13), although the average duration was 6.76 years.

Cures Attempted. Of the 100 men examined, 36 attempted to cure themselves at home (usually under guidance of physician); 36 were subjected to hospital cures (usually by involuntary confinement in institutions); 28 addicts declared that they had never tried to break the habit. The 72 who had attempted cures give a total record of 156 unsuccessful attempts. Before drawing conclusions from these data it should be borne in mind that the figures here recorded are based, in many instances, on nothing more authentic than the patient's own statements; the motive for exaggerating and lying about the degree of addiction and dependence upon the drug was, in the case of those eager to evade military service, a strong one; a bona fide cure would from the very nature of the circumstances not be likely to come to the attention of the Neuro-Psychiatric Examining Board.

Use of Alcohol. Teetotals, 36; moderate users of mild intoxicants, 58 (included in this latter group are 18 who, according to their own accounts, were heavy drinkers prior to their contraction of the drug habit). Six declared that they still drink frequently; a symptom which immediately aroused suspicions about the reliability of their stories. These cases were held over at the base hospital for observation by the medical officer; four were subsequently rejected and two accepted for military service.

Disease Histories. Examination of case histories points to the incidence of venereal disease in at least 38% of the cases; here, again, the true per cent. may be somewhat higher, for the source of information, in most cases was the patient's own admission or denial. Less than half the total number gave negative histories. There seems to be no distinct connection between the addiction to drugs and hereditary conditions, certainly none that could be obtained from the patients themselves.

Criminal Histories. The total number of "Yes" answers to the question, "Have you ever been arrested?" was 56. In 18 of these cases the technical charge was that of "Addiction to

drugs." Excluding arrests and confinements on this charge, there are still 38 who served sentences for criminal offenses varying in seriousness from "disorderly conduct" to "manslaughter." In all there were 54 commitments on charges other than that of addiction to drugs.

Sufficient effort was spent on the drug problem by the Intelligence Department of the camp to bring to light a well established system by which plenty of drugs have been obtainable, both outside of and within the camp. It is entirely a problem for the city, not the country district, although the statement has recently been made that the cutting off of alcohol has tended to increase the consumption of drugs in country districts, and especially in the cities of the South.

As time slipped by evidences arose which bespoke a deliberate attempt to foster and, worse yet, to increase the drug habit for the express purpose of obtaining for the victim a discharge from the Army. So many recently acquiring the habit appeared for examination that suspicions were aroused and enough was found to establish definite propaganda in this direction. As a solution, a purely local one for the Metropolitan District of Greater New York, it was suggested by the writer to the City Board of Inebriety, that all drug addicts from New York City be accepted, temporarily at least, for service. By a suitable arrangement such men could be then, by military order, sent to the institution for drug addicts. Here they might well remain as long as necessary for proper observation and classification.

This institution already in existence and with a fairly complete system of records, amplified by possibilities of social service investigations, could readily cull out the old offenders, who might be returned to camp for discharge from the Army. The more recent cases, who might be open to cure under proper treatment, could be returned for duty and sent quickly beyond the likelihood of obtaining the drug. Certainly, if such procedure in such an institution cannot cure such an addict, the Army will prove, by the same token, unable to make him a soldier.

Viewed from any angle at this time, the problem appears to be very largely a civil one, and must take into consideration numerous social factors of extremely baneful influence and which bring their compelling force to bear at a most unfortunate time of a young man's life.

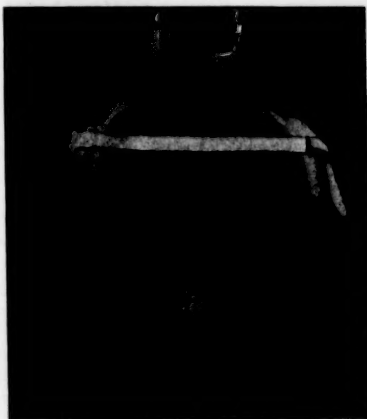
Clinical Department.

REPORT OF TWO CASES OF FRACTURE OF THE CLAVICLE.

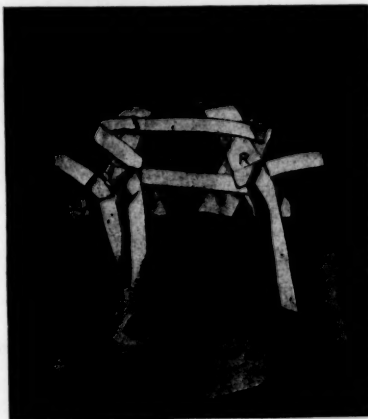
By FRANK E. PECKHAM, M.D., F.A.C.S.,
PROVIDENCE, R. I.

In the BOSTON MEDICAL AND SURGICAL JOURNAL of May 23, 1912, I published a method of treating fractured clavicles.

In the same JOURNAL of April 23, 1914, a case of non-union, seven and one-half weeks



CASE I. FIG. 1.—Front view of strap arrangement.



CASE I. FIG. 2.—Back view of straps.



CASE I. FIG. 2.—Shows method of holding shoulders while straps are applied and also adjusted from day to day.



CASE II. FIG. 2.—Shows the fragment in apposition.



CASE II. FIG. 1.—Shows fracture with the shoulder tip down and markedly under.

after the accident was illustrated, treated in the same manner. This identical method has been used continuously ever since. Numerous cases of non-union and others with the fragments riding by have been brought into position and union obtained, without deformity or excessive callous.

There are times when the outer fragment has been pushed downward and directly under the long or proximal fragment. With such conditions the mechanics call for getting the clavicle out to proper length and up into place so that

the apposition will be perfect. It is to illustrate these conditions that the two following cases are reported:

CASE 1. This was a very long, oblique fracture. Figures 1 and 2 show the method of strapping. Figure 3 shows the method of holding the shoulders back while assistants apply the straps. The roentgenograms speak for themselves.

CASE 2. In this case the outer fragment was *down* and *under* the proximal end. The same method of strapping was used to get the clavicle out to length. After getting the length the fragment must be pushed up into apposition. This was accomplished by pressing down on the proximal fragment with one hand while hard pressure upward was made by the other hand under the elbow. The roentgenograms illustrate the result. This patient was a woman, and there is no "lump" of callous in evidence at all.

On account of the Compensation Act, more disability cases are presenting than formerly, and in fractured clavicles it is not uncommon, now, to have the x-ray show the fragments riding by and the patient unable to abduct the arm. This is evidence, to me, anyway, that the old Velpeau, or similar method, is not very satisfactory. With the method above demonstrated the fragments are held *really* in apposition as *really* demonstrated by roentgenograms. The motion in abduction is not limited by adhesions because the arm is allowed a great deal of freedom during the treatment.



CASE I, FIG. 4.—Shows the oblique fracture.



CASE I, FIG. 5.—Several months after union.

Medical Progress.

PROGRESS OF ORTHOPEDIC SURGERY.

BY C. HERMANN BUCHOLZ, M.D., BOSTON.

BONE DEVELOPMENT.

INTRAVITAL staining of new formed bone is known since Belchior's remarkable discovery in 1736. John Belchior, as Keith¹ describes in one of his very interesting historical sketches, found

that bones of dogs which have been fed with madder are stained red. It was in direct connection with Belchior's discovery that Duhamel (1741) discovered the function of the periosteum and John Hunter discovered that the growth of bone entails two distinct processes, one of deposition and one of absorption. Since those times discussion has not ended and it is interesting to note that recent investigators go back to the old treasures of medical science,

Brooks^{2,3} has used sodium alizarine sulphate which has selective vital staining properties when given by mouth subcutaneously and intravenously. On dogs thus treated a piece of the ulna was resected and the defect filled by a graft. The experiments were done in three series: (1) autogenous transplant of living bone with periosteum and endosteum; (2) same without periosteum and endosteum; (3) implant of dried sterile bone. Possibly the transplanted bone matrix and bone cells retain their viability for a short period of time but the identity of the transplanted bone is ultimately lost as a result of absorption and replacement by new bone. If the periosteum and endosteum are removed, the transplant has no osteogenetic properties. An implant of sterile bone aids in no way regeneration; it results neither in a metaplastic production of bone nor in conducting bone growth. The preservation of periosteum and endosteum is a most important factor in determining the success of the transplant. When placed in parts where there is normally no bone, the transplant, even when it is covered with periosteum and endosteum, shows at first signs of regeneration, but is later completely absorbed. The power of a free transplant covered with periosteum and endosteum to regenerate bone is an intrinsic property and depends upon functional demand. These facts seem to indicate that the living bone transplant with the periosteum and endosteum is the only type of implant which has osteogenetic properties. [Ed. Note—It is very interesting to compare these experimental results with the clinical observations of Gallie.]

Shipley and Macklin⁴ have used azo dye stuffs and metallic colloids for staining the young osseous tissue. The cells resemble macrophages in the avidity with which they eat the vital dye granules. The osseous tissue is stained very darkly, and this color is much more marked in the growing than in the fully developed bone. Especially dense staining marks the actively growing areas of the bone. The primary ossification centers are stained only if they are areas of osteoblastic activity at the time of giving of the dye. This is most evident in the thin bones of the developing skull, where the primary centers are almost without color and the rapidly advancing edge of the membrane bone is heavily stained. It was expected that the osteoclasts would be found loaded with blue granules.

Berg and Thalheimer⁵ have undertaken a series of experiments with the object in view to deter-

mine the fate of the various component tissues which make up bone, where they are transplanted either singly or in different combinations, and also to find out under what circumstances these transplants produce new bone and which elements are capable of generating bone. Cats were used for autogenous transplantation from the tibia upon or into the spleen, the subcutaneous tissue and, most frequently, costal cartilage. The results of these experiments lead the authors to the conclusion that periosteum, endosteum and osteoblasts lining the Haversian canals produce bone when transplanted into foreign tissue; also the cambium layer when adherent to transplanted cortex. Most of the bone will be absorbed in time, but some of the cells resist longer than one year. There is a marked difference in regard to the activity of cells: fully developed adult bone cells do not form bone, whereas very young lacunar cells can reproduce themselves and form bone. The authors give some very excellent microphotographs which show the true bone formed from periosteum transplanted upon cartilage, containing marrow spaces and bone marrow and even formation of an epiphyseal line; proving that bone when it grows into cartilage does so in the same manner characteristic of the normal embryonic development of enchondral bone.

The opinion of Julius Wolff that the bone is the primary seat of deformity is refuted by Keith⁶ who points out that in all static deformities the transformation of bone is the direct result of defective or unbalanced muscular action. He compares the osteoblasts with the scleroblast of sponges, which form the spicules. In the same manner as one can study on the scleroblasts, so the osteoblasts constantly build and unbuild bone tissue, according to the stress to which they are subjected. Stress is as necessary for their health and activity as exercise is for the living body. The mode in which they build and the lines along which they will deposit their material are determined by the forces which are brought to bear on them.

Davis⁷ has made experiments on dogs to compare the permanence of free transplants of bone and cartilage and has found that the former is much more quickly absorbed than the latter. As the cartilage is flexible, as it can easily be cut in any desired form, and a large supply is always available, it is recommended as material for grafts.

Hodgson⁸ has studied the development of the

tibial tubercle on x-ray pictures of children and young adults in the age of 7 to 20 years and comes to the following conclusions: The centre of ossification develops after the tenth year, in girls earlier than in boys; often in one leg earlier than in the other, but not necessarily earlier in the right leg. The centre of ossification of the tibial tubercle is not always separate from that of the epiphysis; when separate centres exist, union begins to take place in the 14th and 15th year, usually somewhat earlier in girls, and is generally complete at the 18th year. Some clinically normal cases show a radiographic appearance which may be easily mistaken, and has been repeatedly so in the literature, for fracture, avulsion or eroded condition.

TUBERCULOSIS.

According to recent discussions there is doubt in the mind of most orthopedic surgeons whether a tubercular knee joint of an adult ever will heal with good function. Osgood and Bull⁹ believe that synovial tuberculosis may be cured by inflation of the joint with 4% iodoform oil after Brackett's device, a method which is claimed to be superior to simple injections. On the other hand, in cases with bone involvement a permanent recovery cannot be expected and excision becomes the method of choice.

There are two problems under discussion: (1) the method of fixation and, (2) angle of the bones. Most surgeons agree that some means of fixation is necessary to obtain quick and firm union. Osgood and Bull recommend bone plates when the bone is firm and a kangaroo bundle tie for atrophic soft bones.

Galloway¹⁰ takes three bone grafts, one on each side, made of a slice of the condyle of the femur, and one in front, made of the patella. The grafts are held in place by four nails; one from each side and two from front crossing each other, and inserted through special holes in the skin to allow their removal after three weeks. In some cases firm union was seen at that time.

Hibbs¹¹ has obtained firm union and completed cure in five cases of severe tuberculosis by simply fusing the patella, denuded of its cartilage, into a groove made in front of the femur and tibia. The patients stay in bed for six weeks and wear a plaster cast for six to twelve months.

The second point concerns the position of the fused bones. The straight line has been heretofore generally accepted as being the only one

which warrants good weight bearing and proper function. Recently Brackett, from clinical experience, has come to the conclusion that a knee joint ankylosed in an angle of about 30 or 35 degrees is much more convenient in sitting and reduces limping, more or less, sometimes entirely. Osgood and Bull, utilizing Brackett's ideas, recommend an angle of 35 to 40 degrees for patients with sedentary vocations and 15 to 20 degrees for those who have to work standing. Galloway chooses an angle of 15 degrees, while Hibbs places the bones in a straight position.

The observations of Freiberg¹² leave hardly any doubt that direct exposure to sunlight, heliotherapy, represents a weapon in the fight against surgical tuberculosis which is far superior over the simple exposure to fresh air and general hygiene. He made his studies on three almost hopeless cases which had been at his hospital for a long time, but had failed to make satisfactory progress in spite of treatment in recumbency in the open air under very satisfactory conditions. All had open tuberculosis; operations had been done without success. Careful exposure to sunlight, according to Rollier's rules, resulted in a speedy improvement. Abandoning of heliotherapy was followed by retrogression of the disease, thus suggesting the necessity of continuing the treatment during the winter. Freiberg has undertaken to construct some form of a shelter which allows exposure to the sunlight and its ultra-violet rays, at the same time, however, protecting the body from unendurable cold and humid winds.

In six old tubercular joints with fibrous ankylosis Nutt¹³ has obtained a promising amount of motion by the application of radium in the form of pads or injections as well as by drinking radium water. Some of these cases had been previously treated by forcible manipulations and passive exercise without results. The radium treatment brought about a feeling of looseness in the joints, followed in a few weeks by actual and constantly increasing motion. The general tonic effect of the treatment has been especially noticeable.

Calvé¹⁴ has successfully treated three cases of Pott's paraplegia with puncture of the spinal abscess. He uses an especially devised curved instrument which is pushed through the intervertebral foramen into the spinal canal so as to reach the posterior surface of the body of the diseased vertebra.

(To be continued.)

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THE DOCTOR IN PARLIAMENT.

ATTENTION has recently been called to the conspicuous part which has been played by physicians and surgeons in British political history. Demands for more adequate representation of the profession in Parliament in the interest of public health prompts us to review the influence of the profession on parliamentary and political history.

Perhaps two of the most notable examples of the far-reaching influence of professional service are the cases of Sir Robert Walpole and the younger Pitt. It may not be generally known that the life of the former, when threatened by smallpox while an under graduate at Cambridge, was saved by his physician, Dr. Robert Brady, himself a member of the House of Commons for Cambridge University. Dr. Brady, although a thorough Tory, is stated to have said at the time, "We must take care to save this young man, or we shall be accused of having

neglected him because he is so violent a Whig." In the second instance, the life of the younger Pitt was saved by Dr. Addington, a physician who, known in political circles as "the doctor," later held the position of prime minister.

In the development of Irish political history, medical members of Parliament have played a conspicuous part. An illustration may be cited in the case of Charles Lucas, who was an eminent physician as well as an Irish party leader. He first entered public life through his desire to prevent abuses in the sale of drugs, and published a pamphlet which led to the passing of an act by the Irish Parliament for the inspection of medicines. He then began to take an interest in municipal administration and was finally driven into exile by the Irish Government. After having established a successful practice in London, he eventually returned to Dublin and sat in the Irish House of Commons until his death ten years later.

It is to be remembered that the medical and surgical professions have been represented in the British House of Commons by Sir John Gray, M.D., by Sir Doming Corigan, Dr. Tanner, Dr. O'Leary, and others. The conferring of the peerage on Lord Lister was a tribute to the medical profession. In more recent times, the entrance of Michael Foster and Sir William Collins into the House of Commons was welcomed by the political world. Nor is the movement in favor of having medical men in charge of ministerial departments concerned with matters of public health of recent origin; for in 1892-1895, Sir Walter B. Foster, a member of the general medical council and for a long time professor of practical anatomy and medical tutor at Queen's College, Birmingham, held the position of parliamentary secretary to the local government board.

In reviewing these facts, it will be seen that the doctor has long been well known in Irish political life, and has held a prominent position in representing the medical and surgical professions in parliamentary history.

HISTORY AND DEVELOPMENT OF THE RED CROSS NURSING SERVICE.

THE history and development of the Red Cross Nursing Service began in 1908, when steps

were taken to secure a closer affiliation between the American Red Cross and the American Federation of Nurses. At this time, a committee was appointed to find out whether or not it would be practical to establish a Red Cross Nursing Service. It was finally decided that a Committee on Red Cross Nursing Service be appointed, in which the Army, the Navy, the Red Cross, and the Federation of Nurses be represented. Miss Jane A. Delano was appointed chairman of the first National Committee on Red Cross Nursing Service, of which nine members were representatives of the Federation of Nurses. Standards adopted for enrollment by the Red Cross met the requirements for admission to the Army and Navy Nurse Corps, so that regulations were later issued by the Secretary of War making the Red Cross Nursing Service the reserve of the Army Nurse Corps. In 1911, a proclamation was issued by the President of the United States placing on the Red Cross the responsibility of acting as the only relief agency permitted to render aid to the land and naval forces in time of war. In order that the work of the Red Cross might develop along lines acceptable to the Army and Navy, the chairman of the National Committee on Red Cross Nursing Service accepted the appointment as the Superintendent of the Army Nurse Corps in 1909. In 1912, Miss Delano resigned this position in order to devote her entire time to the development of a Red Cross Nursing Service.

Various bureaus were organized under the National Committee on Red Cross Nursing Service for conducting the activities of different departments. In 1915, a Bureau of Nursing Service, functioning under the Department of Military Relief, was organized and was responsible for the selection and assignment to duty of all nurses except Public Health Nurses. A Bureau of Instruction was authorized, which was later changed to the Bureau of Nurses Aids and Instruction. War conditions made it necessary to extend the service rapidly, until in 1917, it was necessary to organize a Bureau of Enrollment. In 1916, the Bureau of Dietitian Service was organized for the purpose of securing the services of trained hospital dietitians for Base Hospital Units then being organized by the Red Cross for overseas service. In May, 1918, the Bureau of Public Health Nursing was reorganized under the Department of Nursing. The variety of activities conducted by these bureaus

seemed to justify the creation of a separate Department of Nursing, which was authorized by the Executive Committee of the Red Cross, December 7, 1917, with Miss Jane A. Delano as director of this department. More than thirty-five thousand American nurses were enrolled and supervised by the Red Cross Nursing Service. The development of the Red Cross Nursing Service has been one of the greatest achievements of the war.

MASSACHUSETTS GENERAL HOSPITAL.

The one hundred and fifth annual report, Section B, of the Massachusetts General Hospital describes the medical and surgical affairs of the hospital for the year 1918. The year has been attended by many difficulties, because the staff has been greatly depleted by entrance of officers into war service. This year, the term of service of surgical house pupils was reduced from fourteen to twelve months; but steps are now being taken to return gradually to the twenty-one months' service of surgical house pupils and the eighteen months' service of medical house pupils. During the influenza epidemic, surgical patients, except emergency cases, were not admitted to the hospital, and the surgical wards were used for influenza patients. During the epidemic, over eight hundred cases were cared for.

In 1918, 6,702 patients were admitted to the wards of the Massachusetts General Hospital, with a total number of 116,321 days of treatment. The average daily cost per house patient was \$4.37. There were 1,236 trips made by the ambulance service. The Out-Patient Department cared for 25,441 new cases. The work of the Social Service Department has been: notable and the service rendered by volunteer workers has been extensive and valuable. The Industrial Clinic, established in March, 1916, has developed satisfactorily during the year. Research work in the Children's Medical Department has been limited because three of the members have been absent in war service; at the request of this department, a new clinic has been established in the Orthopedic Department for the purpose of correcting improper posture in children. The Department of Syphilis has received an increased number of patients and the teaching

activities have been amplified. The Clinic for Pulmonary and Non-Pulmonary Tuberculosis has proved the wisdom of its establishment. The research work of the Dermatological Department, though somewhat diminished, has been carried on with special study of the rôle of metabolism and vaso-motor conditions in the production of skin diseases, particularly psoriasis. The Neurological Department has continued to conduct its research activities, and has treated a considerable number of nerve injuries of returned soldiers and sailors. During the past year, there has been established by the Surgical Department a complete system for the carrying out of the Carrel-Dakin treatment of septic wounds. The treatment, employed in all suitable cases, has yielded satisfactory results. Nearly two hundred medical officers have been assigned by the Surgeon-General to the Orthopedic Department for an intensive course in orthopedics. The Infantile Paralysis Clinic has administered six thousand treatments at the hospital and twelve thousand outside the hospital. Detailed statistics are included in the report concerning patients and medical and surgical diseases, together with a summary of surgical operative fatalities for the year 1918.

MEDICAL NOTES.

DAYLIGHT SAVING A MEANS OF HEALTH.—The United States Public Health report for April 4, 1919, offers a valuable suggestion concerning the daylight saving plan now in effect which it would be well for many of us to follow. Since we have added an hour of daylight at the end of the day, would it not be a good plan for us to learn to enjoy outdoor life a bit more? Many people are shut in during the day in their offices or in shops who would find walking all or part of the distance to their homes in pleasant weather by far more agreeable to riding in stuffy trains or street cars. Those who became enthusiastic over the idea of the war gardens can continue this year by spending a short time at the end of the day in cultivating a small patch of ground. Countless ways suggest themselves to many people as to how this time shall be spent and it is urged that public health officers everywhere impress upon the people the desirability of spending this extra hour in

the open and thus make the daylight saving a contribution to health.

MORTALITY RATE IN INFLUENZA EPIDEMIC.—In a recent Public Health Report, an interesting comparison in respect to mortality is made between the influenza epidemic of 1889-90 with the present epidemic. Statistics which are probably not complete, but which are as accurate as can be obtained, indicate that in nine of the twelve cities considered, the mortality rate rose to a much higher point during the primary wave of the 1918 epidemic than in the epidemic of 1889-90. In both epidemics, the rate in St. Louis, Minneapolis, and Milwaukee was comparatively low. A comparison of the mortality during eight weeks of highest mortality for the two epidemics in the twelve cities, considered as a single population group, shows that from December 15, 1889, to February 8, 1890, the mortality rate was 26.7, as against 35.2 for the period from September 29 to November 23, 1918. At the highest point of the epidemic the week rate rose to 55.6 in 1918 and to 35.4 in 1889-90.

It is interesting to note that while the curves plotting the two epidemics show considerable irregularity, yet as a whole, a striking similarity is manifested for the same cities considered both individually and as a whole. In all of the cities, the length of the primary wave was quite similar during both epidemics.

MEDICAL INSPECTION OF SCHOOL CHILDREN AS A PUBLIC HEALTH FUNCTION IN ENGLAND.—A report of the recent action on the English Ministry of Health Bill, making the medical inspection of school children a public health function, is included in a recent public health report of the United States Public Health Service. An amendment has been adopted providing for the immediate transfer to the Ministry of Health of the functions of the board of education in regard to the medical inspection and treatment of children of school age. Although on the introduction of the bill it was proposed to combine under one State department the health responsibilities of the local government board, the functions of the insurance commissions for England and Wales, and the duties of the board of education in regard to the health of expectant and nursing mothers and children under school age, it was not considered necessary for the board of education to resign immediately its

responsibility in the medical inspection of school children. The new amendment, however, proposes this additional transfer of duties to the Ministry of Health, and was carried with practically unanimous feeling in its favor. In order not to burden the new ministry too heavily at the outset, part of the services now rendered by the board of education will be transferred immediately, and part later on. In view of the fact that the object of the English Ministry of Health Bill was to take over the health services from the various departments of the State and to prevent overlapping of services, it would seem consistent that the medical inspection and treatment of school children should not be left outside its scope.

DEGREES IN PUBLIC HEALTH.—Measures for standardizing the various degrees and certificates offered in the public health service have been considered recently at a meeting held at Yale University. Representatives of Johns Hopkins University, the Massachusetts Institute of Technology, Harvard University, New York University, Yale University, and the University of Pennsylvania attended the conference. A recent issue of *Science* has published the following resolutions which were adopted at the meeting:

1. That the degree of Doctor of Public Health (for which the abbreviations should be Dr. P. H.) for graduates in medicine should normally be awarded after two years of work done under academic direction, of which one year at least should be in residence; and that the requirements for the degree should include class work, practical field work, and an essay based on individual study of a particular problem.

2. That the degree of Doctor of Philosophy or Doctor of Science in Public Health or Hygiene should be conferred upon students who hold the bachelor's degree from a college or technical school of recognized standing, and have satisfactorily completed not less than three years of graduate study. It is understood that this degree is based upon the fundamental sciences associated with hygiene and public health, including a knowledge of physics, chemistry, general biology, anatomy, physiology, physiological chemistry, pathology, and bacteriology, in addition to the thesis and other usual requirements for the Ph.D. or Sc.D. degree.

3. That the Certificate in Public Health should be granted for not less than one academic year of work to those who have received a bachelor's degree from a recognized college or technical school or have satisfactorily completed two years of work in a recognized medical school, provided they have previously pursued satisfactory courses in physics, chemistry, general biology, and general bacteriology.

4. That the degree of Bachelor of Science in Public Health or Hygiene should be given for the completion of a four years' course, the last two years of which have been devoted to the fundamental sciences associated with hygiene and public health.

5. That the authorities having the appointment of health officials be urged to give preference so far as possible to persons holding degrees or certificates in public health or hygiene.

ANTIMOSQUITO CAMPAIGNS.—A recent Public Health Report emphasizes the importance of beginning antimosquito measures as early in the spring as possible. The United States Public Health Service will gladly assist local communities in carrying out antimosquito activities, and is willing to detail experienced sanitary engineer officers to communities which may desire expert supervision of these activities. In this connection, the following summary of the results of an effective mosquito campaign carried on by the Public Health Service in the extracantonment areas last year may be instructive.

It was not possible to get rid of all *Anopheles* immediately, as camps were established in rapid succession in widely separated areas ranging from New Jersey to Texas, and Memphis, Tenn., to Jacksonville, Fla. Successful malaria control work was carried out in 43 separate areas in 15 States (in addition to the cantonment areas themselves). *Anopheles* control has been accomplished in a total area of over 1,200 square miles. Where cantonments have been located in notoriously malaria sections, very little malaria has been contracted by enlisted men, and the malaria sick rate among enlisted men in camp has been very much lower than it would have been had they stayed at home. The commanding medical officers at the cantonments report mosquitoes as being scarce at nearly all camps, and *Anopheles*, seldom seen, except at two of the aviation camps near rice-field areas. When the Army and Navy sick rate figures are

published it will undoubtedly be shown that, due to proper mosquito-control measures, practically very little, and, in many instances, no malaria has been contracted at camps located in regions noted for malaria. This demonstration work, distributed over a wide area, has protected a civil population of about 1,750,000, and an average, constantly changing, military and naval population of 800,000, and should lead to a better and more extended general campaign.

Approximately half of the cantonment towns of the South have planned to continue mosquito-control measures, and there are yet others to be heard from. Among other benefits that the war has brought is a tremendous advance in general sanitation in many Southern towns and an equally important one in Anopheles and malaria control.

In certain instances where the town officials were under the impression that the expense of a mosquito drainage campaign would be beyond their financial ability, they were astounded to discover that the annual cost of screening houses and screen repairs greatly exceeded the cost of mosquito elimination. They did not realize the fact that it often costs a community, and the citizens of it personally, much more to support a mosquito nuisance than to eliminate it.

BOSTON AND MASSACHUSETTS.

WEEK'S DEATH RATE IN BOSTON.—During the week ending May 17, 1919, the number of deaths reported was 202, against 242 last year, with a rate of 13.22 against 16.09 last year. There were 30 deaths under one year of age, against 35 last year.

The number of cases of principal reportable diseases were: Diphtheria, 31; scarlet fever, 47; measles, 18; whooping cough, 9; typhoid fever, 3; tuberculosis, 46.

Included in the above, were the following cases of non-residents: Diphtheria, 2; scarlet fever, 3; whooping cough, 1; tuberculosis, 4.

Total deaths from these diseases were: Diphtheria, 2; scarlet fever, 1; whooping cough, 1; tuberculosis, 29.

Included in the above, were the following non-residents: Scarlet fever, 1; tuberculosis, 3.

Influenza cases, 29; deaths, 7.

APPOINTMENTS IN STATE DEPARTMENT OF HEALTH.—1. Dr. Bernard W. Carey, epidemi-

ologist of the State Department of Health, has been appointed Director of the Division of Communicable Disease, to succeed Dr. John S. Hitechock, who resigns May 31, 1919.

2. Dr. G. H. Bigelow of Framingham, who has returned from service in the epidemiological branch of the medical corps in France, has been appointed to succeed Dr. Bernard W. Carey, temporary epidemiologist of the State Department of Health.

HAMPSHIRE DISTRICT MEDICAL SOCIETY.—The annual meeting of the Hampshire District Medical Society was held at Forbes Library, Northampton, Massachusetts, on May 21. This meeting took the place of the regular annual meeting of June 4th. An address was delivered by Dr. Walter H. Adams, and officers were elected for the ensuing year.

SPRINGFIELD ACADEMY OF MEDICINE.—The May meeting of the Springfield Academy of Medicine was held on May 13th. An address, illustrated with lantern slides, on "Ureteral Occlusion: Its Relation to Renal Lesions," was delivered by Dr. Henry G. Bugbee of New York. The next meeting will be held on September 9th.

The officers of the Academy for 1919-1920 are: President, Dr. T. G. Alcorn; vice presidents, Dr. E. L. Davis, Dr. F. L. Everett; secretary, Dr. L. D. Chapin; treasurer, Dr. E. C. Dubois; directors, Drs. R. S. Benner, E. A. Bates, J. M. Birnie, J. B. Comins, R. B. Ober, G. L. Schadt, A. O. Squier, J. M. Tracy, H. W. Van Allen.

REQUESTS TO HOSPITALS.—By the will of George William Thym of Brookline, provision is made for a free bed in the Massachusetts General Hospital to be known as the "George William Thym bed." The proceeds of his estate will be paid over to the Free Home for Consumptives in Boston. Other funds were bequeathed to the following institutions:

Infants' Hospital of Boston, \$10,000; Perkins School for the Blind, \$5,000; Boston Nursery for Blind Babies, \$5,000; and the Free Hospital for Women, Brookline.

TRIBUTE TO MISS DELANO.—A memorial service was held at Tremont Temple in Boston on May 15 by the New England Division of the Red Cross and the Massachusetts State Nurses' Association in honor of Miss Jane A. Delano.

who died at Base Hospital No. 69, at Savenay, France, on April 15, after serving as director general of the department of nursing of the American Red Cross. There were fifteen hundred nurses in the audience, including the nurses of the Instructive District Nursing Association and nurses from the Boston City Hospital, Camp Devens, Base Hospital No. 10, at Parker Hill, the Massachusetts General Hospital, the Homeopathic Hospital, the New England Hospital, the Marine Hospital at Chelsea, the Norfolk Hospital, and the Winchester Hospital. Many officers and privates who served overseas also attended the service. James Jackson, Reverend Sherrard Billings, Dr. Joel E. Goldthwait, and Miss Mary M. Riddell paid tribute to the life and work of Miss Delano. A posthumous award of the Distinguished Service Cross was made recently to Miss Delano and received by Dr. Livingston Farrand on behalf of the American Red Cross.

WORCESTER DISTRICT MEDICAL SOCIETY.—The annual meeting of the Worcester District Medical Society was held in Worcester on May 14, 1919. Dr. Eugene E. Kelley, Health Commissioner of Massachusetts, addressed the meeting, and Dr. Roger Kinnicutt and Dr. Benjamin H. Alton described their war experiences in France.

The following officers were elected for the ensuing year:

President, Dr. William J. Delahanty; vice president, Dr. Frederick H. Baker; treasurer, Dr. George O. Ward; and secretary, Dr. George A. Dix.

SERBIAN APPEAL FOR AID.—It has been estimated that Massachusetts will have to raise \$40,000 of the entire quota of \$250,000 needed to send hospital units, nurses, tents, ambulances, and supplies to the aid of Serbia. The government of this disease-swept country has appealed to the executive committee of American Women's Hospitals for aid. The chairman of the Massachusetts executive committee for securing sufficient funds for relief purposes is Dr. Emily Clark McLeod.

INFLUENZA IN BOSTON.—On May 14, four new cases of influenza and five of pneumonia were reported to the Boston Health Department. This rate is similar to that of the preceding twenty-four hours. On May 12, there were reported

one death from influenza and two from pneumonia.

NORFOLK DISTRICT MEDICAL SOCIETY.—At a recent meeting of the Norfolk District Medical Society, the following officers were elected for the ensuing year.

President, Dr. F. P. Denny; vice president, Dr. G. W. Winchester; secretary, Dr. Bradford Kent; treasurer, Dr. G. W. Kaan; commissioner of trials, Dr. M. V. Pierce; nominating councillors, Dr. A. N. Broughton and Dr. D. N. Blakely. The censors elected were Dr. M. J. Cronin, supervisor; Dr. W. J. Walton, Dr. B. S. Blanchard, Dr. C. F. Stack and Dr. E. T. Rollins.

COLLEGE OF PHYSICIANS AND SURGEONS.—An action has recently been brought before the legislative committee on education by Attorney-General Attwill, advocating that the power of the College of Physicians and Surgeons in Boston to grant degrees be revoked. A year ago, after the Suffolk county district attorney, the district police, and the state board of registration in medicine had investigated the matter, it is reported that Attorney-General Attwill originally advocated this action on the ground that the educational standards of this institution did not meet the requirements of other institutions authorized by the state to grant degrees. It has also been reported that thirty-seven states have refused to accept its graduates, and that many have been placed on the ineligible list for medical service in the army by the surgeon-general's department.

It is stated that the counsel for the college denied the statements that graduates were not accepted for medical service in the army and filed a list of names of graduates who were officers in the medical department of the army and navy. It was announced that four years of instruction and one year of clinical work in a hospital is the requirement to be met for obtaining a degree from this institution.

CONFERENCE OF CHILD WELFARE EXPERTS.—On May 15 and 16, a number of the leading authorities on the subject of child welfare attended a conference held at the State House in Boston. The first session was opened by Governor Coolidge with an address of welcome. Miss Julia C. Lathrop, chief of the federal children's bureau, addressed the meeting on "Working

"Children and Education." At a second session, the topic, "The Protection of the Health of Mothers and Children," was discussed; and on May 16, addresses were made on the subject, "Children in Need of Better Care."

Among the foreign delegates who attended the conference were Sir Arthur Newsholme of England, late chief medical officer of the local government board and authority on child welfare; Sir Cyril Jackson of the London board of education; R. C. Davidson, director of the Juvenile Labor Exchanges of England, leading English authority on child labor; Dr. Rene Sand, professor of social and industrial medicine at the University of Brussels, who was in charge of the Belgian war hospitals in London and at the fighting front; Mrs. Eleanor Barton of the Women's Coöperative Guild of Great Britain; Dr. Clotilde Moulon of the French war department, who supervised creches maintained by the war department in connection with munition plants; Mr. Takayuki Namaye, an official of the Japanese department of the interior charged with the enforcement of laws affecting children; Miss L. E. Carter, a Belgian, in charge of a girls' school at Brussels throughout the entire period of the war; Mr. Rene de Mot, a Belgian; Lady Newsholme of England; Prof. Fabio Frassetto, professor of anthropology at the University of Bologna; Dr. Radmila Lazarevitch Milochevitch, a Serbian physician and a leader in social activities.

The New England Child Welfare conference is composed of one hundred and forty-two members, with Governor Coolidge as chairman. Among the members included may be mentioned Marcus H. Holcomb, Governor of Connecticut; R. Livingston Beeckman, Governor of Rhode Island; John H. Bartlett, Governor of New Hampshire; Percival W. Clement, Governor of Vermont; Carl E. Milliken, Governor of Maine; Charles W. Eliot, president emeritus of Harvard University; A. Lawrence Lowell, president of Harvard University; G. Stanley Hall, president of Clark University; Prof. Irving Fisher of Yale; Andrew J. Peters, mayor of Boston; John F. Moors, Grafton D. Cushing, A. C. Ratschky, and Mrs. J. J. Storrow.

TENEMENT HOUSE SERVICE IN BOSTON.—It is probable that the housing conditions in Boston will be improved by the new plan which has been inaugurated by the Health Commissioner,

reported in the *Monthly Bulletin*. In order to make possible a more efficient and economical execution and enforcement of the housing laws of the city, the Health Department has commissioned a group of sanitary inspectors as the "housing service," under the direction of Deputy Commissioner Thomas Jordan.

Until recently, there were twenty-nine districts in the City of Boston, with a sanitary inspector in charge of each who was responsible primarily for the execution and enforcement of sanitary regulations, housing laws being of merely incidental importance. The present plan seeks, by diminishing the number of areas and assigning a definite group to be specifically responsible to the Health Department, to more effectively enforce housing regulations. This housing service will consider the location, plan, structural condition, and number of occupants of the building, from the point of view of the health of the inhabitants. It is to be hoped that objectionable housing conditions can in this way be remedied either under existing law or by enactment of such new legislation as may be deemed necessary.

GIFT OF \$100,000 TO LYNN HOSPITAL.—By the will of Walter H. Breed of Lynn, a fund of \$100,000 has been bequeathed to the Lynn Hospital.

FRANKLIN DISTRICT MEDICAL SOCIETY.—The annual meeting of the Franklin District Medical Society was held on May 13, for the election of officers and reading of reports.

CONSUMPTIVES' HOSPITAL DEPARTMENT.—The annual report of the Consumptives' Hospital Department for the year 1918 has been submitted. The number of admissions to the hospital during the year, 744, was less than in the two preceding years; it is believed, however, that this is due not to any decrease in the incidence of the disease, but rather to the fact that because of the high wages during the war, all who could work have done so. During the period when the influenza epidemic was most severe, new cases were not received. A new cottage ward of fourteen beds for women has been completed, and the day camp has been changed to a night camp. There were 9,671 patients treated by the out-patient department during the year.

For the greater part of the year, the hospital has been without a resident pathologist, because of the call of this physician to army service. For a considerable time, the work of the special chemical research laboratory was also interrupted; and clinical work has been handicapped by a depleted staff. This report contains tabulated records of admissions and discharges, condition of patients, and financial statistics.

Correspondence.

HISTORY OF A SCARLET FEVER OUTBREAK.

West Newton, Mass., May 20, 1919.

Mr. Editor:—

The following history of an outbreak of scarlet fever among school children in Newton, due to a missed case, seems to confirm Dr. Devine's contention that children are safer from infection in the school than out, and show that children very seldom contract disease in the schools, but frequently contract it from children with whom they play, out of school hours. It also illustrates a very annoying phase of the work of medical inspection of school children.

In this outbreak, six cases were traced directly to the missed case and in four others probable contact could be shown.

The secondary cases occurred as follows: Case 1, a child across the street from the infecting case, not in the same school, but a playmate out of school hours; Case 2, a child living in the next house (north); in the same school, but a different room, a playmate out of school hours—possibility of contact in the school grounds or going or coming from school; Case 3, a boy living half a mile away, not in the same school, a playmate out of school hours; Case 4, child in next house (south): same school but different room, playmate and frequenter of house out of school hours—possible contact in school grounds or to or from school; Cases 5 and 6, brother and sister of missed case, one below school age, other same school but different room. Of the other cases, three were pupils at the same school but in different rooms and the fourth was below school age. None of the cases—those in which contact could be shown and those in which it was only probable—was a pupil in the same room, and four did not attend the same school as the infecting case.

The first four cases were reported within 48 hours, and the histories pointed so clearly to the house in which the infecting case lived, that the inspector visited it and found the missed case, the other two cases in the house not developing until 24 hours later.

Other similar outbreaks of diphtheria and scarlet fever, due to missed cases, have occurred, but almost never have the secondary cases been pupils in the same schoolroom.

These missed cases are the bane of the school physician, and I know of no way to detect them if no absence has occurred.

The history often shows that the child vomited late on Friday and was slightly indisposed on Saturday, felt better on Sunday and was nacked off to school on Monday morning feeling fairly normal.

In such a case, there has been no absence to draw attention to the child; he does not feel ill enough on Monday to report to the physician or nurse at the school, but he is perfectly able to infect his play-

mates and usually does so and is not discovered until several secondary cases have developed.

FRANCIS GEO. CURTIS, M.D.,

Chairman, Newton Board of Health.

INVESTIGATION OF SICKNESS EXPECTANCY.

Malden, Mass.

Mr. Editor:—

In connection with your editorial about the "investigation of sickness expectancy," in the issue of May 8, 1919, the following lines, I think, will be of some interest.

A portion of my practice consists in attending to members of benevolent organizations and to their families. The average number of insured persons under my care since January 1st, 1919, has been about 350 to 375. The average number of families has been about 250. The average number of persons per family is about 5—a total of about 1400 persons. The patients belong largely to the class of wage-earners and are living in one of the cities adjacent to Boston, all within a radius of about three-quarters of a mile from my office.

Since January 1, 1919, I carefully recorded all the visits made at the patients' homes, which figures are brought below:

MONTH	NO. OF VISITS	AV. NO. VISITS PER DAY
January	224	7.22
February	158	5.64
March	138	4.45
April	145	4.76
Total	665	5.52

The number of office calls was not recorded, but I should judge that three per day would be a normal average.

I did not record separately the number of visits made to the heads of families, i. e., to the 375 insured persons themselves.

Assuming that these individuals constituted about one fourth of the total number of persons cared for (1400), this would make about 115 home visits for a period of four months, or about one visit a day. This would make about three calls daily per thousand persons insured.

As a matter of fact, the number of calls made to these individuals was much smaller than previously indicated. In looking over my records, I could not recollect more than 75-80 calls made to these 375 insured persons during the period in question. This is consistent with the general experience every physician has. The doctor is more frequently called to the wife and to the children than to the husband and father.

I admit that the material brought here is small, and so limited that practically no conclusion can be drawn from it, which I hardly intend to do. I merely want to draw the attention to the gross and striking discrepancy between my personal experience and the figures brought in the editorial. According to my experience, 1000 comparatively normal male adults require from a physician a maximum of about 3 home visits and about 2 office calls daily, while according to the figures brought in the editorial, they should require about 20-40 professional calls daily.

Taking the figures as they are, without any comparison, they appear on face rather dubious. If 1000 male adults engaged in useful occupations require about 20-40 professional calls daily, 1000 persons among the population at large, which includes child-bearing women, children, the aged, and invalids, would at least require 30-50 professional calls daily. There is about one physician to every 750 inhabitants in the United States. Deducting the number of physicians who are not directly engaged in the prac-

tice of medicine (retired, insurance men, research workers, etc.), there is probably one active physician to every 1000 inhabitants in this country. In this way every physician in our country, which is notorious for its oversupply of medical men, has to make at least 30-50 professional calls a day in order to meet the needs of his patients.

Yours very truly,
L. SILVER, M.D.

CHEMOTHERAPEUTIC ORTHOARTERITOTONY.

Boston, May 19, 1919.

Mr. Editor:—

An article from my hand, on the dynamic factor of the Chemotherapeutic Orthoarteriotomy, printed in your issue of March 13th, has caused physicians in various parts of the country to address to me inquiries regarding the dynamic factor. For this reason, I beg leave, through your columns, to communicate the following:

Ever since the oncoming of pharmacological science in the modern sense at about the middle of the previous century, alongside with the development of this new science, materia medica has passed through a renaissance. Besides the descriptive requirements of an early period which a given medicinal substance must satisfy as regards its properties *in vitro*, the additional requirement of a distinctly defined action has attained a gradually ever higher development. This demand has, in a particular sense, given its character to a small number of medicinal substances which have been evolved during the last tens of years. To this evolution is attached the historical interest of the birth of "chemotherapy," a most recent development of pharmacology and therapeutics.

The conception of the medicinal substance as material mass is thereby placed in the background, and in lieu thereof the attention is concentrated upon the remedy conceived as energy of certain kind and of certain magnitude, carried by a definite amount of a certain substance which biochemically is adapted to the purpose. Thus the purpose of exactitude in internal therapeutics attains a higher degree of realization than has been possible in earlier periods of medicine.

This development has not been capable of realization without an enormous increase in the amount and the manifoldness of the work which must be done in order to actualize a new form of pharmacodynamic energy and to make it materialize through a suitable carrier-substance.

My purpose has been and continues to be to attain such completeness of knowledge regarding the pharmacodynamic action which I have proposed to name "orthoarteriotony" and its carrier-substance, that the survival of this form of action should be assured and that it should be described in the medical literature together with the knowledge of its diagnostic and therapeutic uses.

Beyond that I can accomplish no more, pending the consensus of the medical profession at large, and I do not know at present when or where this dynamic factor, properly standardized, will be obtainable. The description in my article is sufficient as such. Meanwhile, I shall continue my researches and describe the same *sans peur et sans reproche*, without fear of anachronistic formalities, trusting this matter with unbounded confidence in the freedom of research under American institutions and American ideals.

Yours sincerely,
CLAES JULIUS ENERBUSE, M.D.

THE COVENTRY CASE AGAIN.

Boston, May 22, 1919.

Mr. Editor:—

The heavy damages found against the British Medical Association for conspiracy, etc., proved impossible to escape, and so the appeal was abandoned. References printed in my letter Dec. 12, 1918, page 747, can now be supplemented by *British Medical Journal*, Nov. 9, 1918, p. 531 (giving a page of the decision, omitted in reading by the judge); and by *British Medical Journal Supplement*, May 3, 1919, pp. 75 and 76 (in the annual report to the British Medical Association, 1918-19). This refers to a document (containing case submitted by a Special Committee to the best procurable counsel and opinion thereon) which has not yet been received by the Boston Medical Library.

Under the head of Medical Ethics, this report says in part: "It appeared to the Committee that two alternative courses were open to the Association in view of the opinion expressed by counsel:

- (i) To lay down a line of action in any matter of policy and issue warnings to non-members, but to take no further action, or
- (ii) To keep Ethical Rules 28 and 29 in an amended form and be prepared to accept any liability arising from action taken thereunder.

The Council considers that the decision in this matter is of vital importance to the Association."

After lengthy discussions, it was last month decided to amend the Rules and take the consequences.

The "far-reaching importance" of the decision in this case has already appeared by its applicability to somewhat similar problems in the Antipodes, and by its being pertinent to the fish conspiracy cases here. Details are too voluminous to discuss.

ALFRED ELA.

SOCIETY NOTICES.

THE AMERICAN MEDICAL LIBRARY ASSOCIATION will hold its twenty-first annual meeting at Atlantic City. The sessions begin Monday, June 9, at 3 P.M., at the Hotel Marlborough-Blenheim. All interested in the subject are welcome, and the date likewise permits attendance on the A. M. A.

THE HARVARD MEDICAL ALUMNI ASSOCIATION.—The annual meeting of the Harvard Medical Alumni Association will be held in conjunction with the meeting of the Massachusetts Medical Society on Wednesday, June 4, at 2 P.M., at the Copley-Plaza Hotel.

RECENT DEATHS.

DR. K. H. V. BARDELEBEN died recently at the age of sixty-nine. Dr. Bardeleben was professor of anatomy at the University of Jena, and author of a long series of works on anatomy and evolution.

DR. R. KOBERT, professor of pharmacology, physiologic chemistry, and the history of medicine at the University of Rostock, died recently at the age of sixty-five years. Dr. Kobert was considered an authority on materia medica and physiologic chemistry.